



FIELD-APPLIED COMPOSITE SYSTEMS LLC
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SAFETY DATA SHEET

PowerSleeve™ X-Temp-2 Matrix-Part B

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

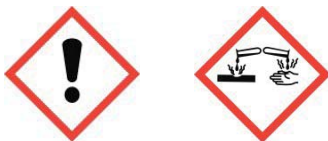
PRODUCT NAME: PowerSleeve™ X-Temp-2 Matrix-Part B Hardener
MFR'S NAME: Field-Applied Composite Systems LLC, 925 North Todd Avenue, Azusa CA 91702
EMERGENCY PHONE: 800.424.9300 (CHEMTREC) **GENERAL INFORMATION:** 626.633.0294
USE OF THE SUBSTANCE: Hardener for X-Temp epoxy resin used with fiberglass or carbon fabric for the repair of pipelines or other structures.

SECTION 2: HAZARDS IDENTIFICATION

OSHA/HCS status: No information available.

GHS Label Elements:

Hazard Pictograms:



Signal Word: Danger!

Hazard Statements and GHS Classifications:

H314	Causes severe skin burns and eye damage	Category 1
H312	Harmful in contact with skin.	Category 4
H302	Harmful if swallowed.	Category 4

Precautionary Statements:

Prevention: P260 Do not breathe mists.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves, clothing, and eye/face protection.

Responses: P310: Immediately call a poison center or seek medical attention.
P301+P312+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call POISON CENTER or get medical attention if you feel unwell.
P303+P352+P353+P361+P362+P364 IF ON SKIN: Immediately remove all contaminated clothing and wash before reuse. Rinse skin with water/shower and wash with plenty of soap and water.
P333+P313: If skin irritation persists, seek medical attention.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313: If eye irritation persists, seek medical attention.
P391: Collect spillage.

Storage: P403+P233: Store in a well-ventilated place. Keep containers tightly closed.
P405: Store in a secured area.

Disposal: P501: Dispose of contents and containers in accordance with all local, regional and international regulations.

Other Hazards: None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

CHEMICAL NAME	CAS NUMBER	CONTENT
2-Ethyl-4-methylimidazole	931-36-2	75-100%

Amounts specified are typical and do not represent a specification. Remaining components are proprietary and non-hazardous or present at amounts below reportable limits.

SECTION 4: FIRST AID MEASURES

Description of necessary first aid measures:

General Get medical attention immediately for any person who is having trouble or not breathing, or any unconscious person. Provide oxygen or artificial respiration to a person if they have trouble breathing. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Place an unconscious person in a recovery position, maintain an open airway and loosen tight clothing.

Inhalation Remove victim to fresh air and keep warm and at rest in a position comfortable for breathing. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin Contact Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. Get medical attention immediately.

Eye Contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids and roll eyes in a circular motion. Check for and remove any contact lenses if easy to do. Continue to rinse for at least 15 minutes. Get medical attention immediately.

Ingestion Wash out mouth with water. Remove dentures, if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. DO NOT induce vomiting.

Most Important Symptoms/Effects, Acute and Long –Term:

Potential Acute Health Effects:

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed after exposure. Harmful if inhaled in high airborne concentrations. Persons with sensitive airways (e.g., asthmatics) may react to vapors. May cause burns to nasal passages, throat and respiratory tract.

Skin Contact Causes skin irritation or burns. May cause an allergic skin irritation or aggravate existing conditions through prolonged/repeated contact.

Eye Contact Irritating and may cause burns, redness and pain.

Ingestion May cause discomfort if swallowed.

Overexposure Signs/Symptoms:

Inhalation No specific data.

Skin Contact Adverse symptoms may include the following: Irritation and/or Redness.

Eye Contact Adverse symptoms may include the following: Burns, Pain or Irritation. Watering. Redness.

Ingestion No specific data.

Indication of Immediate Medical Attention and/or Special Treatment needed:

Notes to Physician Treat symptomatically.

Specific Treatments No specific treatment(s).

See also Toxicological Information in **Section 11**.

SECTION 5: FIRE FIGHTING MEASURES

Extinguishing Media Dry chemicals, water spray, foam or carbon dioxide. Spray containers with water to keep cool and avoid rupture due to pressure buildup.

Unsuitable Media None known.

Specific Hazards Material is not considered a fire hazard but will burn if ignited.

National Fire Protection Association (USA):

Labeling: No data available.

Hazardous Thermal Decomposition Products

Irritating or toxic substances may be emitted upon burning or decomposition. See **Section 10** for additional information.

Special Protective Actions for Fire Fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special Protective Equipment for Fire Fighters

Fire Fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode during the attack phase of firefighting operations. During cleanup, if area is poorly ventilated, SCBA should be used.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Keep unauthorized persons away. Provide adequate ventilation and avoid breathing vapors. Put on appropriate personal protective equipment (see **Section 8**). If spilled in an enclosed area, ventilate area or use SCBA. Remove potential ignition sources.

Environmental Precautions

Avoid dispersal of material and runoff from contact with soil, waterways, drains and/or sewers.

Methods and Materials for Containment and Cleaning Up (Small or Large Spill)

Stop leak if possible without risk. Move containers from spill area. Absorb spilled material with vermiculite, dry sand or earth, put into sealed containers, store in a safe location and dispose of via a licensed waste disposal contractor. Do not allow runoff into sewers or water courses

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling/Personal Hygiene

Use good laboratory/workplace procedures. Use appropriate personal protective equipment as per **Section 8**. Keep in the original container or an approved alternative; keep containers tightly closed when not in use.

Keep away from heat, sparks and open flame. Eating, drinking and/or smoking should be prohibited where this material is being used. Workers should remove contaminated clothing/protective equipment and wash hands and face and before entering eating areas and eating, drinking and/or smoking.

Conditions for Safe Storage, including any Incompatibilities

Store in sealed original containers, or approved alternatives, when not in use in a dry, well-ventilated area. Protect containers from direct sunlight in a dry, cool and well ventilated area. Do not allow to freeze or exceed 40°C (~110°F). Do not reuse containers.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>ACGIH TWA</u>	<u>ACGIH -STEL</u>
2-Ethyl-4-methylimidazole	931-36-2	N/A	N/A

Appropriate Engineering Controls

Good general ventilation should be sufficient to control worker exposure to any airborne contaminants. If working in enclosed spaces, provide additional local ventilation. Eyewash fountains and safety showers are recommended, as well as good laboratory/shop procedures and care.

Exposure controls

Respiratory Protection

If necessary, a properly-fitted vapor mask/respirator (organic vapor respirator) or SCBA should be used.

Hand Protection

Impervious chemical-resistant gloves (such as nitrile rubber, PVC, etc. of .35mm thickness or similar) should be worn when handling this material. Contaminated gloves should be disposed of properly.

Body Protection

Chemically resistant long-sleeved shirts and long pants or lab coats are recommended. Contaminated clothing should be washed separately from other clothes before reuse. Footwear appropriate for the work being performed should be worn and cleaned carefully if contaminated, before reuse. Heavily contaminated clothing or shoes should be disposed of properly.

Eye/Face Protection

Safety eyewear and face shields appropriate for the work being performed should be used. Ordinarily, this means a minimum of safety eyewear or splash goggles.

General

Use good laboratory/workplace procedures. Easy access to eyewash fountains and/or safety showers is recommended.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid	Color:	Yellow amber
Odor:	Amine	Odor Threshold:	N/A
pH	10.7 @100 g/L	Melting Point:	36-42°C (~97-108°F)
Boiling Point:	270-276°C (~520°F)	Flash Point:	>155°C (~340°F)
Evaporation Rate:	N/A	Vapor Pressure/Density:	<1mm Hg at 25°C Heavier than air.
Relative Density	>1 at 20°C	Viscosity:	5950 cP at 25°C 569 cP at 40°C
Auto-Ignition Temp.	475°C (887°F)	Decomposition Temp.	N/A
Upper/Lower Flammability or Explosive Limits LEL: 1.5 vol% UEL: 13 vol%			
Solubility: 180 g/L (n-octanol/water Partition Coefficient: 1.64)			
VOC Content: N/A-none.			

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Exothermic reactions including polymerization may occur in contact with strong acids or bases, alcohols, strong oxidizing agents and excessive heat. This material will auto-polymerize at very high temperatures.

Chemical Stability: This product is stable under normal conditions.

Possibility of Hazardous Reactions: See "Reactivity" above for cautions.

Conditions to Avoid: Avoid moisture, excessive heat and ignition sources.

Incompatible Materials: Strong bases, acids, acid chlorides or anhydrides, oxidizing agents, amines and alcohols.

Hazardous Decomposition Products: Thermal decomposition may produce smoke, oxides of carbon and nitrogen and other products of incomplete combustion.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

CHEMICAL NAME	LC ₅₀ INHALATION (RAT)	LD ₅₀ ORAL (RAT)	LD ₅₀ DERMAL (RABBIT)
2-Ethyl-4-methylimidazole	N/A	731 mg/kg	>400 mg/kg

Skin Corrosion/Irritation: Skin Irritation-Category 1

Serious Eye Damage/Irritation: No specific data.

Respiratory or Skin Sensitization: No specific data.

Mutagenicity: No specific data. **Carcinogenicity:** No specific data.

Reproductive Toxicity: No specific data **Teratogenicity:** No specific data.

Aspiration Hazard: No specific data.

Specific Target Organ Toxicity (Single and Repeated Exposure): No specific data.

Information on the Likely Routes of Exposure: Eyes, skin, inhalation and ingestion.

Potential Acute Health Effects and Related Symptoms:

See **Section 4**.

Delayed, immediate and chronic effects from short and long term exposure:

Some persons may become sensitized after chronic exposure and may exhibit moderate to severe allergic reactions when exposed.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:

CHEMICAL NAME	TEST	SPECIES	RESULT
2-Ethyl-4-methylimidazole	LC ₅₀ (96 hrs)	Fish	>46-100mg/L
	EC ₅₀ (48 hrs)	Daphnia	2003 mg/L
	EC ₁₀ (18 hrs)	Algae	79 mg/L

Persistence and Degradability:

CHEMICAL NAME	TEST	PERIOD	RESULT
2-Ethyl-4-methylimidazole	Not readily biodegradable	N/A	N/A

Bioaccumulative Potential:

CHEMICAL NAME	Log K _{ow}	BCF	POTENTIAL
2-Ethyl-4-methylimidazole	1.64	N/A	N/A

Mobility in Soil: No information is available.**Other Adverse Effects:** Other information is not available. No information is available regarding classification as PBT of vPvB.**SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of unused contents (incineration) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate. See **Section 8** for recommendations on the use of personal protective equipment.

SECTION 14: TRANSPORTATION INFORMATION

UN No's: DOT/TG: UN2735 IMDG: 2735 ICAO: 2735

DOT/TDG/UN Proper Shipping Name: Amines, Liquid, Corrosive, N.O.S. (Contains 4-Methylimidazole)

Hazard Classes: DOT: 8 TDG: 8 IMDG: 8 ICAO: 8 ADR/RID: 8

Hazard Labels: DOT: 8 TDG: 8

Pack Groups: DOT: III IMDG: III AIR: III

Environmental Hazards: **Marine Pollutant:** No. **Hazardous Substance (USA):** No.

Special Precautions for User: No information is available.

Transporting in Bulk per Annex II of MARPOL73/78 and IBC: No information is available.

Label for Conveyance:

**SECTION 15: REGULATORY INFORMATION****International and US Inventory Lists**

Canada Inventory (DSL)	All components listed or exempt.	EU-ELINCS	Not listed.*
Canada Inventory (NDSL)	Not listed.*	EU-EINECS	Listed or Exempt
US Toxic Substances Control Act (TSCA)	All components listed or exempt.	REACH, Annex XIV and Annex XVII	Not listed.*
Other	Not determined, no additional information is available.		

***Note:** There is no listing on the public inventory, no information is available or the component has not been reviewed.

Substances of Very High Concern: None of the components are listed.**Other Information:** Material is not listed as a CA Prop 65 chemical, and has no reportable quantity listings.

SECTION 16: OTHER INFORMATION

ABBREVIATIONS:

ACGIH: American Conference of Governmental Industrial Hygienists
ADR/RID: European dangerous goods transport, road and rail, regulations
CAS: Chemical Abstract Service Registry
DOT: Department of Transportation (U.S.)
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods code
OEL: Occupational Exposure Limits
OSHA: Occupational Safety and Health Administration (U.S.)
PEL: Permissible Exposure Limit
RQ: Reportable Quantity
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit (15 minute Time Weighted Average)
TDG: Canadian Transportation of Dangerous Goods Act and Regulations
TPQ: Threshold Planning Quantity
RQ: Reportable Quantity
UN: United Nations
U.S.: United States
N/A: Not available or not applicable.

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Revision: 0
Reason for Revision: N/A

Notice:

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